

<b>Interview Summary</b>	<b>Applicati n No.</b> 09/997,306	<b>Applicant(s)</b> HONKAWA ET AL.	
	<b>Examin r</b> James W Davie	<b>Art Unit</b> 2828	

All participants (applicant, applicant's representative, PTO personnel):

(1) James W Davie. (3) M. Irikawa.

(2) Bradley Lytle. (4) Kanichiro Yamamoto.

Date of Interview: 10 November 2003.

Type: a) ☐ Telephonic b) ☐ Video Conference  
c) ☒ Personal [copy given to: 1) ☐ applicant 2) ☒ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.  
If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 34-40.

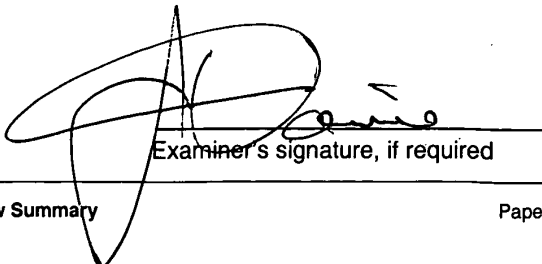
Identification of prior art discussed: Mori et al.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Discussed rejection of record. Discussed applicant's proposal for amendment of claims, see attachment. Applicant will present proposed claims with justifying arguments.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

  
Examiner's signature, if required

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

22. (withdrawn)

23. (withdrawn)

24. (withdrawn)

25. (withdrawn)

26. (withdrawn)

27. (withdrawn)

28. (withdrawn)

29. (withdrawn)

30. (withdrawn)

31. (withdrawn)

32. (withdrawn)

33. (withdrawn)

34. (currently amended) A [buried] semiconductor laser device formed on a semiconductor substrate[ having a top surface and a bottom surface], the laser device comprising:

[a mesa structure formed at the top surface of the substrate and having a bottom cladding layer at the top surface of the substrate, an active layer overlaying the bottom cladding layer, and a top cladding layer overlying the active layer, the mesa structure having at least one side surface with the active layer having an exposed side thereat;

a first current-confinement layer overlaying at least a portion of the mesa's at least one side surface and having a first portion disposed against the exposed side of the active

layer, the first current-confinement layer comprising a semiconductor material and having a first conductivity type;

a second current-confinement layer overlaying at least a portion of the first current-confinement layer, the second current-confinement layer comprising a semiconductor material and having a second conductivity type which is opposite to the first conductivity type; and ]

a lower cladding layer having an n type conductivity, formed on a top side of said substrate,

an active layer formed on a top side of said lower cladding layer,

an upper cladding layer having a p type conductivity, formed on a top side of said active layer,

a mesa structure formed by said lower cladding layer, said active layer and said upper cladding layer,

a first confinement layer having a p type conductivity, formed at a side of the mesa structure and contacting the lower cladding layer,

a second confinement layer having an n type conductivity, formed at a side of the mesa structure and on a top side of and in contact with said first confinement layer,

wherein the closest distance ( $T_n$  or  $T_p$ ) between the second current-confinement layer and the active layer has a value in the range from  $0.15\ \mu\text{m}$  to  $0.6\ \mu\text{m}$ .

35. (currently amended) The laser device as defined in claim 34 wherein the first confinement layer covers a side portion of said active layer. ~~the substrate has an n-type~~

~~conductivity, wherein the first conductivity type is p type, and wherein the second conductivity type is n type.~~

36. (currently amended) The laser device as defined in claim [35] 34 wherein the first current confinement layer is a first current-blocking layer, and wherein the second current confinement layer is a second current-blocking layer.

37. (canceled)

38. (canceled)

39. (currently amended) The laser device as defined in claim 34 wherein the closest distance ( $T_n$  or  $T_p$ ) has a value in the range from  $0.2\mu\text{m}$  to  $0.4\mu\text{m}$ , inclusive.

40. (currently amended) The laser device as defined in claim 34 wherein the closest distance ( $T_n$  or  $T_p$ ) has a value in the range from  $0.25\mu\text{m}$  to  $0.35\mu\text{m}$ , inclusive.